

An Analysis of Large Woody Debris in two Puget Sound Salt Marshes; Elger Bay, Camano Island, Sullivan Minor Marsh, Padilla Bay

Andrea MacLennan, Tom Terrich, PhD
Western Washington University*

Keywords: LWD, pocket marshes, marsh vegetation

The beaches of the Pacific Northwest are commonly characterized by an abundance of drift logs. Drift logs, or large woody debris (LWD), tend to accumulate in the upper portions of the intertidal zone of Puget Sound beaches and salt marshes. This two-part study explores the human influence on nearshore LWD and the relationship between the LWD and marsh vegetation at two Puget Sound locations: Elger Bay, Camano Island, and Sullivan-Minor Marsh, Padilla Bay. A set of questions was posed based on the current understanding of driftwood origin and function in salt marsh ecosystems, and addressed using air photo analysis, GIS and a field investigation. Findings show that wood sources are predominantly anthropogenic (46% anthropogenic, 10% biogenic, 43% unknown). The LWD deposit is associated with both fewer species of vegetation and a decrease in vegetative cover. LWD may be acting as an agent of disturbance in the marsh. The LWD is also providing a structural function as substrate for upland vegetation that can not tolerate the saline conditions of the marsh. These findings offer an enhanced understanding of the processes taking place in Puget Sound marshes with LWD accumulations, which can aid in the better management of these valuable habitats.